Chapter 5

Field Artillery Combat Service Support

The most challenging task for corps arty, div arty, and FA brigade CSS staffs is the identification, coordination, and delivery of required CSS assets to subordinate formations at the right time and place and in the proper condition. This includes preparing force artillery formations for operations, deploying them to the operational area, supporting them during operations, and redeploying them when missions have been achieved. Associated FA CSS operations must be tailored to synchronize and integrate FA support and operational functions to sustain soldiers and their weapon systems during the delivery of FA fires in support of close, deep, and rear operations. This chapter, therefore, addresses FA focused CSS characteristics and functions, LPB, and the logistic estimate.

COMBAT SERVICE SUPPORT CHARACTERISTICS

5-1. The tenets of Army doctrine -- agility, initiative, depth, versatility, and synchronization -- also establish the CSS framework. Sustainment of combat operations requires adherence to certain CSS characteristics that apply to all organizations but are especially critical for nondivisional artillery units. Lacking sufficient organic means to sustain themselves, commanders and CSS staffs of nondivisional FA units must be aggressive in anticipating requirements. Continuous coordination with internal, COSCOM, and DISCOM agencies is essential to provide assurance that CSS support will be responsive and fully integrated into unit operations. For additional details see FM 100-7, *Decisive Force: The Army in Theater Operations*, and FM 100-10, *Combat Service Support*.

5-2. CSS characteristics that are essential for effective and efficient FA logistic operations include the following:

- Responsiveness. Responsiveness is the ability to adjust to changing requirements on short notice and to provide the right support at the right time. It is a key characteristic for FA formations whose missions may frequently change in response to an evolving friendly and enemy situation. Although the intent is to predict future operations accurately, combat operations often take unexpected turns. FA CSS personnel must be able to tailor available capabilities to meet changing priorities and types and quantities of support required with special focus on FA munitions, POL, and maintenance requirements for FA specific weapon systems across wide frontages.
- Simplicity. Simplicity means avoiding complexity in both planning and executing CSS operations. Mission orders, drills, rehearsals, and SOPs contribute to simplicity.

- Flexibility. CSS plans must be flexible enough to achieve both responsiveness and economy. Flexibility may include improvisation and anticipation. Improvisation is essential for continuous and responsive support as CSS staffs seek new and innovative solutions to problems and adapt to changing situations. Improvised CSS procedures can provide continuity of support when the preferred method is not usable to complete the mission. CSS staffs must clearly understand their commander's intent and anticipate future events and requirements as operations progress. Anticipation rests on the ability of CSS staffs to identify, accumulate, and maintain assets, capabilities, and information necessary to support combat operations. While monitoring and coordinating support for current operations, they must simultaneously plan future operations. For example, corps arty G4s should plan at least 48 to 72 hours into the future.
- Attainability. Attainability is generating the minimum levels of supplies and services to initiate operations. The commander determines the minimum acceptable level of support.
- Sustainability. Sustainability is the ability to maintain continuous support during all phases of a campaign or operation. Artillery Class V is a major determinant in evaluating sustainability.
- Survivability. Being able to protect support functions from destruction or degradation equates to survivability. Redundancy in support contributes to survivability.
- Economy. Economy means providing the most efficient support to accomplish the mission. Economy reflects the reality of prioritizing and allocating scarce resources. Availability of resources such as Class III and Class V have had major impacts historically on combat operations.
- Integration. FA sustainment operations to include development of support plans and responsive CSS structures must be closely integrated into the force and FA commander's overall scheme of operations and FS. CSS and FA tactical operations must be mutually supportive. This is crucial for generating the necessary combat power, flexibility, and greatest possible freedom of action.

COMBAT SERVICE SUPPORT FUNCTIONS

5-3. The five CSS characteristics translate into tactical-level applications that are focused on arming, fueling, fixing, moving FA formations, protecting CSS elements, and sustaining artillerymen and their systems. The major challenge in providing comprehensive and responsive mission support is to distribute available assets and to integrate all tasks effectively and efficiently. Included throughout are actions by the FA commander and staff to protect the sustainment system.

ARMING THE SYSTEM

General

5-4. During intense combat, arming the force is a critical, demanding, and time-sensitive CSS function. It is particularly critical for FA systems because of the high tonnage and sophistication of munitions. It calls for the effective

integration of supply, transportation, and maintenance functions. Successful ammunition resupply operations depend on a series of factors:

- Careful estimates based on usage, experience, and the anticipated intensity of combat. These should be prepared in support of each COA and further refined during wargaming and preparation of the admin-log tab to the FA support plan.
- A smooth flow of ammunition from supporting ammunition units directly to ammunition transfer points (ATPs) (supply point distribution) and/or FA firing points (throughput distribution).
- The ability of the FA TOC and force FSC/FSE to prioritize demands for critical ammunition based on the tactical situation.
- Establishment of orderly ammunition resupply routes.
- A clear definition of how and who will resupply nondivisional FA units.

Unit Basic Load

5-5. A unit's basic load (UBL) of ammunition is the quantity of ammunition authorized and required to be on hand to meet combat needs until resupplied. Basic loads are specified by theater army and for FA units, expressed in number of rounds by type ammunition per weapon. UBL size and composition is based on mission, enemy, and type of unit supported and normally varies from FA battalion to FA battalion. SOP should prescribe the distribution of basic loads.

5-6. For a deployed corps, basic loads must be transportable on user unit organic transportation. If a complete upload is not practical, basic loads should be stored under user control as close as possible. Units that are not uploaded should establish, review, and revise loading plans on a systematic basis. Div arty and FA brigade S4s must ensure that stored ammunition is identified, segregated by unit, and readily accessible. Additionally, div artys or FA brigades need to upload ammunition periodically to validate loading plans to ensure UBLs can be moved and secured.

5-7. Once engaged in combat, the UBL ceases to exist. Ammunition on hand in a unit then becomes a function of the required supply rate (RSR) for an operation and the CSR, if established. Units report specific numbers of rounds and types of ammunition on hand over advanced field artillery tactical data system (AFATDS) or initial fire support automation system (IFSAS) or the fastest other means. They also report these figures as part of any required logistic status (LOGSTAT) reports. Reports may state the percentage of required ammunition on hand or use a color-code system. Examples of the color-code system are:

- Green for more than 80 percent.
- Amber for 60 to 79 percent.
- Red for 40 to 59 percent.
- Black for less than 40 percent.

Required Supply Rate

5-8. The first step in FA ammunition planning in support of a specific operation is to determine the RSR. The RSR is defined as the estimated amount of ammunition to sustain a force in combat without restrictions for a specific

length of time. It is based on the type of operation to be executed, number of FA delivery systems to be armed, and number of enemy targets to be engaged. It is expressed in rounds per weapon per day for each munition fired by weapon systems.

5-9. FA ammunition planning factors in FM 101-10-1/2, *Staff Officers Field Manual - Organizational, Technical, and Logistical Data Planning Factors* or Department of the Army published expenditure rates are guidelines to develop ammunition requirements for planning. The resulting quantities must be modified based on experience. FA battalion S3s prepare the RSR for review by their battalion commanders and forward it through operations channels to the next level for consolidation, review, and further passage upward. Corps arty logistic and operations officers and FSCOORDs review FA RSRs submitted by div artys and FA brigades prior to submission to the ground component command.

Controlled Supply Rate

5-10. Ground component commanders (normally the Army service component commander [ASCC] or contingency corps commander) develop and announce theater-wide controlled supply rates (CSRs) on the basis of subordinate unit requirements (developed from RSRs), ammunition on hand, resupply capabilities (transportation, equipment, and personnel), and recommendations from the force G3, G4, and FSCOORD. CSRs set priorities for the distribution and expenditure of controlled ammunition items and are expressed in rounds per weapon per day. Corps or a higher HQ may further impose a CSR on FA brigades and div artys by unit and/or by operational phase and identify variances between RSRs and CSRs in the logistic portion of the FS/FA support plans. If a CSR falls significantly short of anticipated requirements, adjustment to the FA support plan and the overall scheme of operations may be needed.

Ammunition For Immediate Consumption

5-11. At times, FA units may be required to draw ammunition in excess of CSRs for a specific requirement such as a FA preparation. Ammunition may be issued for immediate expenditure or for firing within the next 24 hours. It is considered expended when issued. If circumstances preclude expenditure, excess ammunition is reported daily until it is expended or reallocated. Ammunition for immediate consumption or for contingencies to support a specified operation or unit may also be generated by internally controlling the amount of ammunition expended from the CSR. In addition, necessary savings can be achieved by reducing CSRs sent to subordinate units or by assigning nonstandard missions that limit unit CSR expenditures.

Combat-Configured Loads

5-12. Combat-configured loads (CCLs) are preplanned packages of ammunition transported as a single unit for routine resupply, yet flexible enough to provide for a variety of tactical operations. The mix of ammunition is predetermined and designed to support a specific type unit or weapon system. CCLs should be published in div arty and corps arty TSOP. CCLs not only speed the passing of resupply requirements but also improve the efficiency of DS and GS ammunition units. Instead of planning unique loads for each resupply mission,

DS or GS ammunition units can organize operations to rapidly prepare CCLs and ship them quickly when directed by corps MMCs.

5-13. The use of CCLs does not preclude ordering single Department of Defense identification code (DODIC) loads, which may be required for specific missions and contingencies. Ammunition constraints also may require use of single DODIC loads and limit use of published division or corps CCLs. Munitions not included in CCLs are moved to ATPs from ammunition supply points (ASPs) or corps storage areas (CSAs) on separate transportation assets as required. This may include various types of small-arms ammunition transported to ATPs on non-CCL trailers with mixed loads (five to 20 types) of ammunition. These non-CCL trailers are collocated at the ATPs but away from high volume transload operations associated with weapon systems such as 155mm howitzers. Small-arms ammunition can be included in artillery CCLs.

5-14. Div arty and corps arty commanders specify in paragraph 4 of the FS/FA support plan which CCL will be used by subordinate units. Actual requests follow standard ammunition request channels. Division ammunition officers (DAOs) review CCL selections and submit consolidated division CCL requests to corps. DAOs and corps arty G4s coordinate with corps MMCs to ensure selected CCLs flow to the right ATP at the proper time.

Resupply

5-15. Basic loads will initially sustain units until the ammunition resupply system becomes operational. Corps and division CSS organizations normally do not have sufficient organic transportation assets to distribute ammunition directly to using units. To do so would deprive other CSS customers of essential transportation support. As a result, FA commanders should not rely on external support for normal operations. FA battalions in heavy units usually pick up ammunition from ATPs or ASPs and deliver it to firing batteries using organic ammunition resupply vehicles. When FA battalions cannot resupply themselves adequately as in case of limited organic transportation assets in light, airborne, and air assault artillery units, divisions or corps elements are called upon to augment organic capabilities. Such requests are submitted to division transportation officers or the MMC of the appropriate corps or higher-level support command. To assist in alleviating transportation shortages, CSS planners can establish ATPs forward of corps ASPs to greatly reduce turnaround times.

5-16. Once the Class V resupply system is established, units will draw ammunition as authorized by CSRs. Divisional FA battalions normally draw ammunition from ATPs (see Figure 5-1) located in brigade support areas (BSAs). Nondivisional FA battalions may also draw ammunition from brigade ATPs if the corps has augmented divisional ATPs and if caliber-specific ammunition has been pushed sufficiently forward. If this is not the case, nondivisional FA battalions will draw ammunition from ATPs or ASPs located near division support area (DSA) rear boundaries as designated by the COSCOM commander in coordination with corps arty (see FM 6-20-1, *Tactics, Techniques, and Procedures for the Field Artillery Cannon Battalion* for distribution within FA battalions). FA battalions requiring large amounts of ammunition above and beyond CSRs for immediate consumption usually draw ammunition from the corps or DSA.

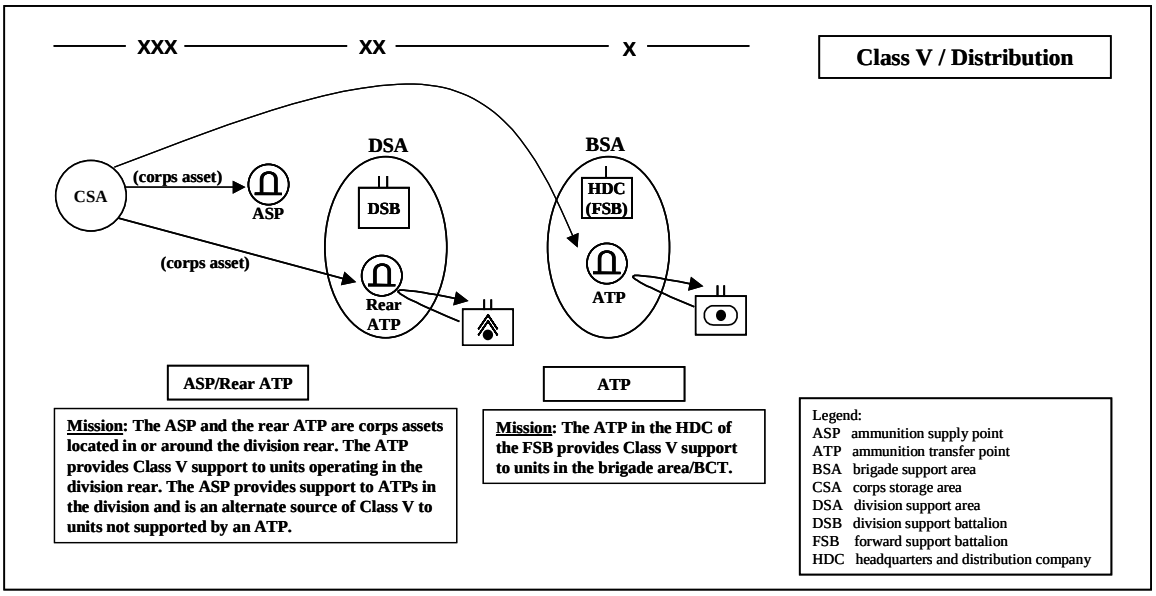

Figure 5-1. Arming the Force

5-17. If the system fails to function properly, FA battalion ammunition officers, service battery commanders, S4s, or XOs should resolve system failures face-to-face with appropriate CSS counterparts (e.g., ATP/ASP commanders, FSB support operations officers, DAOs, or DISCOM support operations officers) and simultaneously notify force artillery G4s/S4s for assistance. Prior planning by artillery G4s/S4s and their staffs on how to resolve system problems pays great dividends during execution. Anticipation and aggressive follow-through before and during execution are key to making the Class V system work properly.

5-18. An additional Class V resupply consideration is the wide variety of special-purpose ammunition developed for artillery (for example, ATACMS). With the exception of DPICM and high explosive (HE) ammunition, most artillery munitions are projected for infrequent or surge usage. Inaccurate predictions for use of special-purpose munitions lead to wasted effort and slow the Class V resupply system.

FUELING THE SYSTEM

General

5-19. Like arming, fueling requires a surge capability for fuels and packaged petroleum, oils, and lubricants (POL) products during combat operations. It affects equipment operations and force mobility, to include the movement of personnel, equipment, supplies, and units.

REQUIREMENTS DEFINITION

5-20. Like ammunition, the delivery of fuel establishes continuous resupply requirements and is essential to maintain the mobility of FA units. These requirements are based on forecasts provided by FA battalions in supply channels.

5-21. FA brigade logistic personnel consolidate and refine fuel consumption rates submitted by subordinate battalions based on experience and standard planning factors. These estimates must consider special factors that include terrain, weather, and the mission. When FA brigades are operating under division control, their forecasts are consolidated with the requirements of the div arty and forwarded by the supported div arty S4 to the division MMC. FA brigade and div arty units may draw fuel from the same bulk POL distribution points established by the DISCOM (see Figure 5-2). Alternatively, FA brigades may receive bulk fuel from corps support group (CSG) DS petroleum supply companies. When an FA brigade is not operating under division control, FA brigade requirements are forwarded to the COSCOM MMC. In reviewing and refining estimates, div arty and FA brigade S4s must consider special circumstances that could result in unusually high fuel consumption rates. For example, vehicles operating over hilly terrain consume more fuel than those operating on relatively level terrain do. FM 101-10-1/2 provides fuel consumption data to serve as a general guide; however, the data should be modified based on experience.

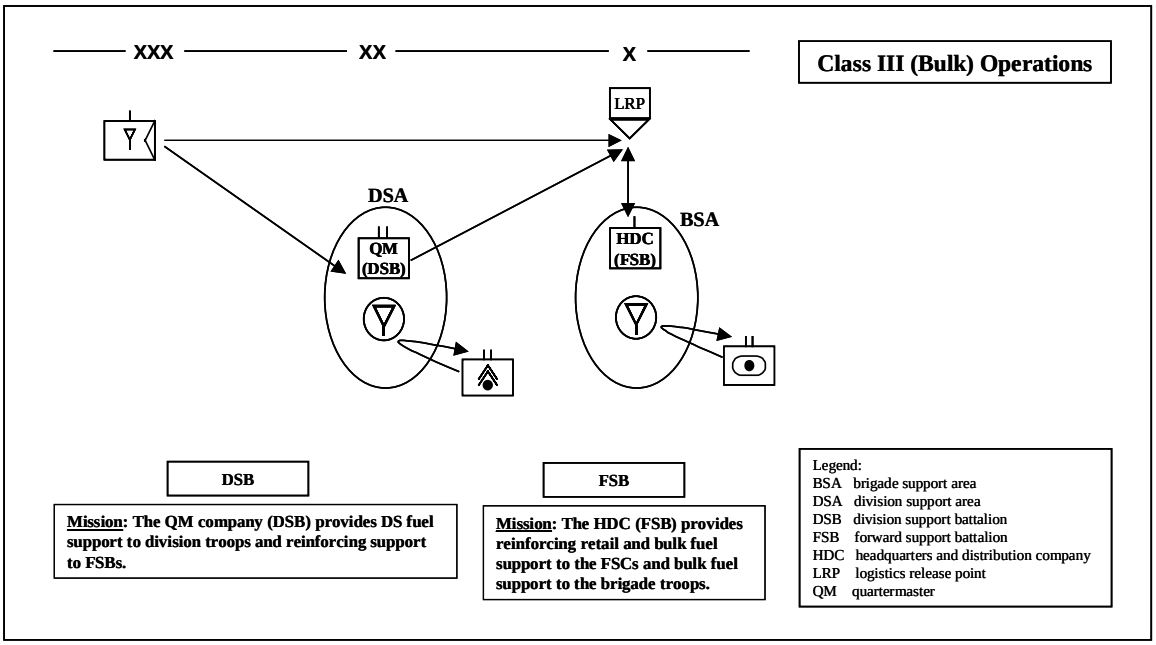

Figure 5-2. Fueling the Force

RESUPPLY

5-22. Once fuel requirements are forecast, FA brigade and div arty S4s determine if battalions can carry and distribute their own fuel in organic POL vehicles and trailer-mounted fuel pods. These can be positioned in combat trains, BSAs, or other locations relatively close to using units. With prior coordination, CSG DS petroleum supply companies may also provide tankers, collapsible tanks, or drums to supply nondivisional battalions.

5-23. As a general rule, COSCOM delivers bulk fuel to fuel distribution points in division and brigade support areas, using tank trucks, rail cars, pipelines, or

hose lines. These distribution points transfer fuel to organic refueling vehicles belonging to division and corps units in division sectors to include FA elements.

5-24. Whenever planning to draw supplies from division resources, nondivisional FA unit S4s must coordinate closely with division G4s and division MMCs through main support battalion (MSB) or FSB support operations officers. MSBs/FSBs of heavy divisions also may establish retail fuel outlets along main supply routes (MSRs) to serve individual vehicles in the rear area.

5-25. Normally, FA battalions within a maneuver brigade's support area draw bulk fuel at the FSB Class III point. Under extreme conditions and after coordination, bulk fuel may be delivered to a FA battalion position. Distribution within the battalion is described in FM 6-20-1.

FIXING THE SYSTEM

General

5-26. Fixing FA systems directly affects the FA's capability to accomplish its mission. It ensures maximum availability of scarce equipment and involves maintaining, recovering, repairing, and replacing equipment. Success requires the integration of several CSS functional areas with support provided as far forward as possible. It transcends repair and includes providing repair parts at the right place and time and actions taken before, during, and after battle to keep equipment operational (see Figure 5-3).

5-27. If the repair system fails to function properly, FA units can attack the problem in two ways. They can notify force artillery G4s/S4s or the supported maneuver force. In most cases, the maneuver commander directly controls maintenance elements in his AO and is the person best able to resolve quickly critical problems affecting his operations.

5-28. Similar to POL and ammunition operations, FA G4s/S4s, battalion maintenance officers (BMOs), HQ or service battery commanders, or XOs should address maintenance or repair parts problems in face-to-face meetings with COSCOM/DISCOM G4s or support operations officers, MSB/FSB support operations officers, maintenance support team (MST) chiefs, or force G4s/S4s. Prior planning by FA G4s/S4s and their staffs plays a significant role in this process and should include establishing maintenance priorities and authorized stockage lists (ASLs).

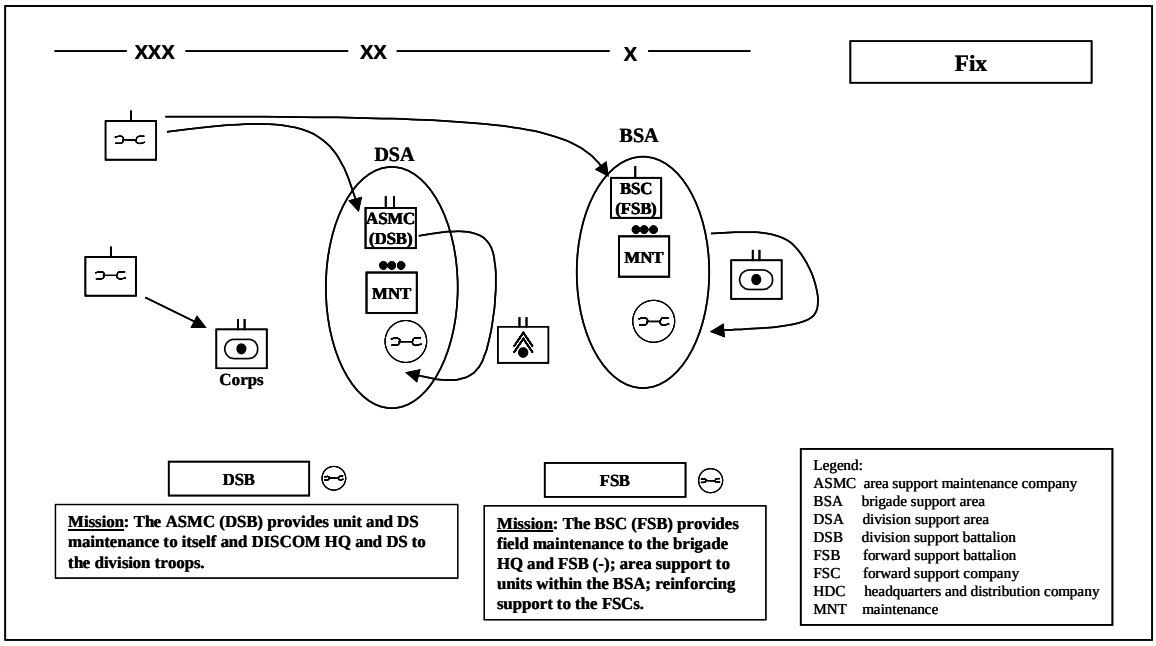

Figure 5-3. Fixing the Force

Maintenance Operations

5-29. Maintenance is a combat multiplier. The ability to repair equipment quickly and as close as possible to the point of failure or damage is key. The Army's maintenance system should be responsive and provide for improved operational readiness, battlefield mobility, and flexibility. Logistic personnel must assist commanders in developing and implementing aggressive and thorough preventive maintenance (PM) programs. For example, PM performed by operators or crewmembers to strictly enforced standards is key to keeping weapon systems operational and maximizing combat power. To meet the demands of the modern battlefield, maintenance is performed at four levels:

5-30. **Unit Maintenance**. At unit level, quick turnaround repairs through parts replacements, minor repairs, and scheduled services characterize maintenance. Operators and/or FA crews, the organization's maintenance section, or battalion maintenance assistance teams perform it. If repairs are beyond FA battalion capabilities, units request assistance from their supporting maintenance battalion.

5-31. **Direct Support Maintenance.** DS maintenance should be performed as far forward as possible, focused on mobile support for users in division areas. Nondivisional forward maintenance units can provide dedicated support to FA brigades and battalions, including repair management. They can also support divisional maintenance units when required as part of their area support mission.

5-32. DS maintenance tasks normally performed are battlefield damage assessment and repair (BDAR), repair of high-usage components in support of

the repairable management system, and operation of maintenance collection points and the Class IX DS supply activity.

5-33. **General Support Maintenance.** GS maintenance is performed in support of the theater supply system through the repair of assemblies, components and modules, repairables, and printed circuit boards. GS maintenance units are job or production line oriented for repair of Class VII (major end items) and Class IX (repair parts) items.

5-34. **Depot Maintenance.** US Army Materiel Command depots or activities, contractors, and host nation support personnel perform this level of maintenance in support of the supply system. Depot maintenance is performed in fixed facilities in continental United States (CONUS) or the theater of operations and is production line oriented.

5-35. **Repairs.** Repairs entail providing and installing repair parts and providing services to keep the FA system in a ready condition. If equipment cannot be repaired on site, it is returned to the rear only as far as needed. When an artillery weapon is disabled, organic FA battalion maintenance personnel try to repair it on the spot or evacuate it to a location where the extent of required repairs can be determined. Battalion maintenance teams and if needed, maintenance support teams with necessary repair parts or assemblies from the DS maintenance unit may be called forward. The goal should be to repair weapons in position whenever possible, instead of evacuating them.

5-36. **Replacement.** Replacement is the provision of new or substitute components. If equipment cannot be repaired quickly in a forward area, it is moved to a collection point established by the supporting maintenance commander. There it is either repaired or evacuated to a COSCOM maintenance unit. If equipment is evacuated to a COSCOM maintenance unit, a replacement must be requisitioned immediately.

5-37. If all maintenance or replacement requirements cannot be met, FA G4s/S4s must coordinate with operations counterparts to determine maintenance or replacement priorities based on operational requirements. FA units operating in maneuver brigade or division areas should be integrated into force maintenance priorities to include availability of contact teams for specific major end items not on force TOEs.

5-38. **Battlefield Damage Assessment and Repair.** BDAR is a technique for returning battle-damaged equipment (major end items) to an operational status as quickly as possible. It involves determining what needs to be fixed and if necessary, bypassing standard repair procedures by “jury-rigging” components. Operators should be familiar with procedures and guidelines for battlefield repairs in BDAR technical manuals for their specific equipment. BDAR procedures are used only in combat at the direction of unit commanders. Equipment repaired by BDAR methods should be repaired using standard maintenance procedures as soon as practicable after mission completion.

5-39. **Repair Parts.** Stockage of repair parts and major assemblies is based on corps or division ASLs. Stockage levels are based on best data available and

experience factors. They are limited to items needed to repair inoperable equipment quickly. FA brigade and div arty S4s should periodically review stockage lists for subordinate FA battalions and supporting maintenance companies to determine whether they support known unit contingency missions.

5-40. ASL parts for FA brigade battalions with unique, nondivisional weapon systems must be intensely managed. FA brigade CSS staffs must work closely with supporting corps support battalion (CSBs) to ensure availability of Class IX support while corps arty and div arty CSS staffs monitor, coordinate, and expedite the process.

5-41. **Other Equipment.** The preceding paragraphs described repair and recovery operations focused on FA weapon systems. Units are also responsible for recovering other unserviceable items such as signal and engineer equipment, tentage, and clothing to DS DISCOM and COSCOM maintenance units. Maintenance collection points are established for the collection of such unserviceable or abandoned material.

5-42. Automatic data processing equipment such as advanced communications, fire direction, and other specified equipment present special maintenance and repair responsibilities for units engaged heavily in continuous operations. Proper care and maintenance of this equipment are critical because of the inherent sensitivity of system components. Also, when components such as printed circuit boards and special cables are replaced at user or organizational levels, emphasis must be placed on adherence to recovery and evacuation procedures. Damaged items must be evacuated through proper channels to ensure availability of replacement components.

MOVING THE SYSTEM

General

5-43. Movement is inherent in all combat, CS, and CSS functions and a major concern for operations officers responsible for the synchronization of FA unit displacements within the overall force structure. It is the element that ties together sustainment operations and battlefield combat operations. Success requires extensive coordination and control to include effective and efficient management of transportation resources such as road, water, and rail networks. Total asset and in-transit visibility is critical.

5-44. Generally, FA CSS staffs have little control over external transportation assets because these do not exclusively support FA operations. However, when transportation support to distribution points (normally BSAs for FA units) negatively affects FA missions, then CSS staffs must aggressively pursue their concerns with FSB operations officers, force G4s, division transportation officers (DTOs), DISCOM operations officers, and the chain of command.

FA Transportation Assets

5-45. Organic FA vehicles are the primary transportation assets for planning and executing FA tactical and CSS movements. However, in special situations or under surge conditions, FA G4s/S4s may receive transportation augmentation from DISCOM MSB transportation motor transport companies

(supply and transport battalion in light divisions) or one of the CSG's transportation truck companies. Division or corps aviation brigades may also provide airlift transportation. The main point of contact in the division for additional ground transportation requirements is the DTO, who assigns available support on the basis of the command's overall mission priorities. Airlift support requirements are submitted through operational channels.

Coordination Requirements

5-46. In maneuver brigade sectors, FA battalion S3s through maneuver brigade S3s coordinates tactical unit movements. In division and corps rear areas, FA unit movements are coordinated by FA G4s/S4s and controlled by DISCOM or COSCOM movement control officers.

SUSTAINING THE FORCE

General

5-47. Planners must be prepared for mass casualties, mass destruction of equipment, and the destruction or loss of effectiveness of entire units. This paragraph addresses individual and crew replacements. Also, when battalions have been catastrophically depleted or rendered ineffective, they are returned to combat effectiveness through reconstitution.

5-48. The ability of div arty, corps arty, and FA brigade personnel officers to influence the manning system is small because of the "pipeline" nature of the replacement system. However, FA personnel officers must identify the impact of personnel shortages on mission accomplishment. Through aggressive coordination with counterparts at division and corps and the chain of command, FA CSS personnel can change replacement priorities and affect the manning system.

Individual And Crew Replacements

5-49. Pre-combat casualty estimates should be based on experience and good military judgment. To determine requirements to replace actual personnel losses in combat, accurate and timely personnel strength accounting and casualty reporting systems are needed. Whether to replace personnel either individually or as complete crews may depend on the following:

- Personnel and weapons losses are low: Individual replacements are preferred. For divisional units, DISCOMs transport personnel to BSAs. From there they are send forward to individual units as part of the logistic package (LOGPAC). For nondivisional units such as FA brigade personnel, CSG commanders establish linkup points in DSAs. Units pick up personnel and equipment as part of routine supply runs.
- Personnel losses are low and weapons losses high: Individual replacements may join FA crews at support area sites where replacement weapons are drawn. Whenever possible, experienced soldiers whose delivery systems have been destroyed or evacuated should be mixed with replacement soldiers to form complete crews (see FM 100-10 for further details). Conditions permitting, some FA crew familiarization training may be provided during linkup. Such wartime training is not elaborate or a

substitute for crew qualification. The intent is to familiarize crews with operating conditions in the combat zone to include:

- Refresher gunnery.
- Tactical driving.
- Enemy and allied vehicle identification.
- Passive air defense procedures.
- Local SOP.
- Any other subjects appropriate to the operational area.

- Personnel losses are high and weapon losses are low: DISCOMs or CSGs should transport replacement crews directly to battalion combat trains.
- Personnel and weapon losses are high: replacement crews may join replacement systems in support areas and then be sent to requesting units as discussed above.

Personnel Shortages

5-50. When the personnel system does not provide sufficient replacements, commanders must set assignment priorities on the basis of recommendations from personnel and operations officers. Also, they can reconstitute crews using div arty or FA brigade internal personnel assets by taking the following actions:

- Reassign soldiers in noncombat positions who have appropriate secondary military occupation specialties (MOSs).
- Reassign soldiers with related skills such as drivers.
- Return slightly wounded soldiers to duty as quickly as possible.
- Reassign soldiers among sections, batteries, and battalions to balance shortages across the command.

SUPPLY, MEDICAL OPERATIONS, AND FIELD SERVICES

General

5-51. Although the main focus of the CSS system is to arm, fuel, fix, sustain, and move the force, other vital services are provided. These include supply and medical operations and field services.

Supply Operations

5-52. **General.** Supply operations include the determination of requirements and requesting, processing, storing, and distributing supplies. MMCs maintain stock and order status for supplies within corps and divisions.

5-53. **Classes of Supplies.** The Army divides supplies into general classes for planning and administrative purposes (Table 5-1). Normally, requirements are expressed as days of supply by class of supply. Also, supply distribution points are designated on maps by class and subclass of supply.

Table 5-1. Classes of Supplies

CLASS I	Rations
CLASS II	Clothing, individual equipment, tentage, tool sets, tool kits, hand tool sets, and admin and housekeeping supplies and equipment
CLASS III	Petroleum, oils, and lubricants
CLASS IV	Construction and barrier material
CLASS V	Ammunition
CLASS VI	Personal demand items sold through post exchanges
CLASS VII	Major end items such as tanks, armored personnel carriers, and howitzers
CLASS VIII	Medical supplies
CLASS IX	Repair parts
CLASS X	Nonstandard items to support nonmilitary programs such as agriculture and economic development

5-54. Guidelines relevant for FA units for each class of supply are discussed below. When trying to resolve supply problems, FA battalion CSS personnel should notify force artillery counterparts for assistance and face-to-face discussions with FSB S4s (or support operations officer in light units) and MMCs. The force artillery CSS staff should also coordinate with MMCs and force G4s/S4s to resolve problems.

- Class I Supplies. FA batteries should carry a supply of combat rations (meals, ready-to-eat) for assigned personnel on section vehicles for use during the initial stages of an operation. METT-TC, unit load plans, and unit SOP determine specific amounts. After kitchen equipment and personnel have deployed, hot meals are prepared when the situation permits. CSB supply companies (DS) provide rations at Class I supply points on an area basis according to G1 or adjutant general strength figures. Water is distributed through water points that are normally established near Class I supply points. Gratuitous ration supplements consisting of health and sanitation items may also be available during the early phases of a conflict.
- Class II, Class III (packaged), and VI Supplies. Units submit requests to their COSCOM DS supply company. Requests for items not stocked are forwarded to the appropriate MMC. Supplies are shipped to the DS supply element initiating the request.
- Class III (bulk), V, VII, and IX Supplies. As previously described above.
- Class IV and X Supplies. These are handled generally the same way as Class II and VI supplies, although their issue may require command approval.
- Class VIII Supplies. Medical supply procedures are described below.

5-55. **Distribution.** Supplies are delivered to forward units whenever possible through unit distribution. The other method is supply point distribution when users pick up supplies from distribution points located in their support area. Normally, divisional and nondivisional support units receive supplies from FSBs or CSBs through supply point distribution (see Figure 5-4). Divisions use

a combination of supply point and unit distribution to supply subordinate units. FA brigades, when not supporting a division or ACR, receive support directly from the COSCOM. Critical items in short supply may also be delivered directly to the user by corps or theater support units. This method is most often used for major assemblies, ammunition, and fuel. Safety levels should be established for critical supply items to reorder and restock before availability reaches a critical status.

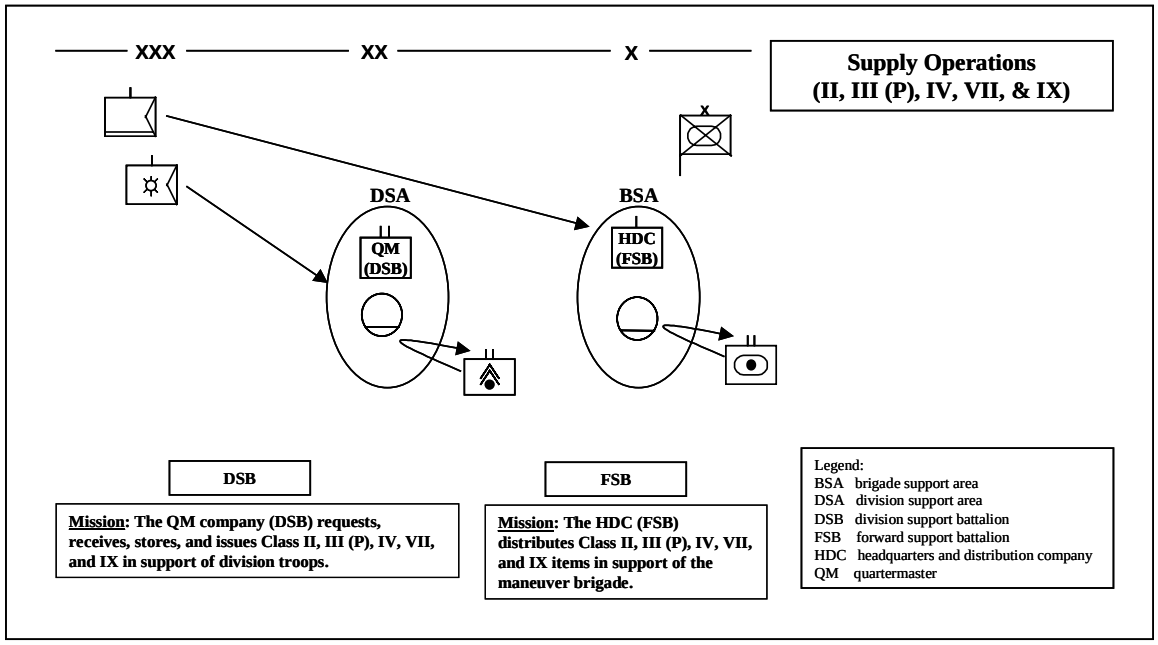

Figure 5-4. Sustaining the Force

Medical Operations

5-56. **General.** The goal of the medical system is to return soldiers to duty as soon as possible. Once patients have entered the medical evacuation system, their treatment is established by triage. Evacuation is governed by theater evacuation policies, giving FA CSS personnel few options to resolve short-term personnel shortages. Their efforts should be focused on FA internal procedures to enter soldiers into the medical support system expeditiously, when required. The corps medical brigade and DISCOM-organic medical units provide a series of services to include hospitalization, medical evacuation, patient regulation, medical supply, medical maintenance, preventive medicine, and others that are briefly addressed below. As noted in Appendix E, corps artys greatly depend on the support from their parent organization. For additional details see FM 8-10, *Health Services Support in a Theater of Operations*.

5-57. **Hospitalization.** Medical clearing companies (Level II care), mobile army surgical hospitals (MASHs), combat support hospitals (CSHs) (Level III care), or evacuation hospitals (Level IV care) provide hospitalization in corps areas. Normally, there are two evacuation hospitals, one CSH, and one MASH per division assigned to each corps. Clearing companies are assigned for division-level medical care to units located in the corps area, for example, an artillery

brigade. Normally, CSHs and MASHs are located in the corps forward area and give emergency resuscitative, medical, psychological, dental, preventive medicine, and ground evacuation support. Evacuation hospitals are larger than CSHs and MASHs, are located farther to the rear, and provide complete medical care and hospitalization.

5-58. In DSAs, hospitalization and medical services are provided by medical companies of the main support battalion and by unit organic medical elements. A medical company located in the BSA supports each maneuver brigade. These companies provide emergency resuscitation, medical, psychological, dental, preventive medicine, and ground evacuation support. Since these units must move with their supported units, their capability to hold patients is limited to patients who will return to duty in a few hours or days. FA brigades operating in division rear areas draw support from medical units in the DSAs.

5-59. **Evacuation Guidelines.** Patients are held or evacuated from medical units based on patient condition and corps evacuation policies. They are evacuated only as far to the rear as needed to provide care consistent with the tactical situation. Doctrine for medical evacuation in corps sectors also prescribes that once patients have entered the medical system, higher echelons evacuate from lower. The exception is in division rear combat areas where units with organic evacuation assets may be required to evacuate patients to their supporting medical unit. Two air ambulance detachments and one ground ambulance company provide for patient evacuation from each division. Movement by air ambulance is the preferred method of evacuation.

5-60. In the corps rear, medical brigade air ambulance companies provide aeromedical evacuation on an area basis. Ground ambulance detachments also provide area support to units located in corps rear areas.

5-61. **Medical Supplies.** Medical supplies (Class VIII), medical maintenance, and optical fabrication are provided to the corps by the medical supply, optical, and maintenance (MEDSOM) battalion of the medical brigade. Unit aid stations located in the corps rear area may draw medical supplies from their supporting medical unit. In division areas, division medical companies provide these same services. Below division level, medical resupply is informal and medical supplies are transported by ambulance. FA brigades, when not supporting a division, receive support directly from the corps medical brigade.

Field Services

5-62. Field services are services required by units that are not usually available within the unit. CSG supply and services battalions provide both DS and GS field service support. These battalions have a DS supply and service (S&S) company and a GS field service company. The DS company supports nondivisional units in the corps area, and the GS company supports division areas. Laundry and bath detachments may be positioned in division AOs or they can be centrally located in the corps area. To counter the NBC treat, bath units may also be used for decontamination.

5-63. Field services include the following:

- Laundry.

- Bath.
- Clothing exchange.
- Bakery.
- Textile and clothing renovation.
- Salvage.
- Decontamination.
- Graves registration (GRREG).
- Post exchange sales.
- General duty labor.

In peacetime, there is no capability to provide selected field service functions. GRREG, bakery, post exchange sales, and general duty labor are examples of functions that may not be immediately available upon initial deployment.

RECONSTITUTION

General

5-64. When a unit is at an unacceptable level of combat readiness, it may be reconstituted. Reconstitution consists of extraordinary actions to restore units to a desired level of combat effectiveness commensurate with mission requirements and resource availability. It differs from sustaining operations, which are routine actions to maintain combat readiness. Although reconstitution is a command responsibility and primarily an operations function, CSS elements are deeply involved in replacing personnel, equipment, and supplies. It is a total process whose major elements are reorganization, assessment, and regeneration. For additional details see FM 100-10 and FM 100-9, *Reconstitution*.

REORGANIZATION

5-65. Reorganization is a shift of resources within a degraded unit to restore its combat effectiveness. It may include cross-leveling equipment and personnel, matching operational weapon systems with crews, forming composite units, and providing thorough equipment decontamination support. The two types of reorganization are:

- Immediate battlefield reorganization. This is the quick and often temporary restoration of units. It is conducted during an operation.
- Deliberate reorganization. This is a permanent restructuring of the unit. Deliberate reorganization is supported with higher echelon resources such as maintenance, transportation, and personnel replacements. The parent unit commander one echelon higher than the unit being reorganized must approve deliberate reorganization.

Assessment

5-66. Assessment measures a unit's capability to perform its mission. Once it is determined that a unit is no longer mission-capable even after reorganization, the unit's mission must be changed or the unit must be removed from combat. A more thorough evaluation is then conducted to determine regeneration needs.

REGENERATION

5-67. Regeneration, or rebuilding a unit, is a corps commander's prerogative. It requires large-scale replacement of personnel, equipment, and supplies; reestablishing or replacing essential command, control, and communications; and conducting training for the rebuilt unit. Because of the intensive nature of regeneration, it occurs at a regeneration site after the unit disengages. It requires extensive coordination among operations and CSS elements and balancing regeneration requirements for supplies, equipment, and personnel against other command demands.

COMBAT SERVICE SUPPORT INFRASTRUCTURE

CORPS ARTY COMBAT SERVICE SUPPORT

5-68. Corps arty HHBs and FA brigades have no organic CSS structure above battalion level other than CSS coordinating staffs in corps arty and FA brigade HQ.

5-69. Forward CSGs consisting of multifunctional CSBs normally provide area support to customers located in or transiting their areas of responsibility. Corps arty HHBs and separate FA battalions not attached to an FA brigade draw support from CSB(s) responsible for their particular area. For a detailed discussion of the structure and employment of CSGs, see FM 54-30, *Corps Support Groups*.

5-70. To facilitate support for corps units operating in division support areas, CSG commanders normally tailor a forward CSB per division and position them in division rear areas to support nondivisional corps units or functions (for example, maintenance, POL, or personnel administration).

FA BRIGADE COMBAT SERVICE SUPPORT

5-71. Corps FA brigades draw support on an area basis from supporting CSG units. To ensure access to the necessary support, FA brigade CSS staffs must be prepared to coordinate directly with forward CSGs, CSBs, forward logistic elements (FLEs) from supporting CSGs, MSBs, FSBs, or COSCOM and DISCOM staffs.

5-72. When gaining CSS structures are incompatible with or inadequate to support newly arriving corps arty battalions or corps support teams, losing CSGs and/or CSBs can provide the necessary additional support directly to corps FA brigades/battalions. For example, MSTs and FLEs will be task organized by CSB DS companies and deploy with designated corps arty battalions. Although accompanying MST/FLEs may not be organized to meet every maintenance and Class IX supply need of nondivisional units, they can unburden supported corps arty units from the complex task of establishing and coordinating support in each new operational area. A strong and effective support relationship can also be fostered when MSTs are collocated with FA brigades/battalions on the same installation in peacetime to establish a habitual relationship. It will help ensure that assigned maintenance personnel have the right skills and tools and that authorized stockage lists are artillery-oriented.

5-73. Although CSBs have ultimate responsibility for supporting corps units, divisional FSBs and MSBs may also provide support on an area basis to

nondivisional units operating within sector. For example, a reinforcing FA brigade may receive maintenance and ammunition support directly from its forward CSB while drawing Class I (food and water) and Class III (POL) from DISCOM elements. This is significant because cannon and rocket artillery units, regardless of assigned tactical mission, normally operate in division or brigade sectors as a function of weapons ranges. However, divisional support is normally constrained by the number of personnel, items, and types of equipment to be supported particularly because corps arty FA brigades often field battalions with weapon systems not organic to the divisions they support. With FSB/MSBs designed to support only organic and attached elements, divisional support cannot be assumed unless prior arrangements are made and confirmed.

5-74. When additional support requirements or dispersion create significant or unusual new work loads for FSB/MSBs, forward CSBs may augment divisional capabilities with specialized personnel, critical spares, or dedicated support teams. Regardless of whether corps units are supported by CSBs or in a combined FSB/MSB/CSB effort, the source of the actual support should be transparent to the customer as much as possible.

DIV ARTY COMBAT SERVICE SUPPORT

5-75. Although similar in size and structure and operating under an area support concept, div artys and FA brigades operate under very different CSS arrangements. Divisional units receive dedicated support from divisional CSS elements within their AO.

5-76. DISCOM commanders direct support activities within sector according to command priorities and changing battlefield requirements. DISCOMs are normally organized with three FSBs to coordinate CSS for maneuver brigades in designated BSAs. This includes support for habitually associated DS artillery battalions and other divisional slice elements.

5-77. DS FA battalion supply operations centers (BSOCs) (or ALOCs in light divisions) are normally located in BSAs. They forecast logistic requirements to their respective FSB to include requirements for reinforcing artillery units. In turn division CSS staffs and DISCOMs integrate div arty support requirements into overall division requirements as a normal part of doing business. While FSBs execute logistic resupply operations, div arty CSS staffs should monitor all logistic activities for subordinate elements and forecast and coordinate CSS requirements for artillery units in GS of the division.

5-78. FSBs are backed up by an MSB in the division rear area. In addition to backup support, MSBs also provide direct support for div arty HHBs, MLRS battalions in heavy divisions, and other organic units in sector.

5-79. When divisions cannot meet CSS requirements internally or are called upon to provide specialized, non-organic technical assistance to supporting, non-organic elements, CSGs normally provide additional assistance through CSBs as noted above.

COMBAT SERVICE SUPPORT OF OFFENSIVE OPERATIONS

5-80. As FA units move forward and offensive combat operations are initiated, LOCs extend and detailed planning is required to accommodate increased rates of consumption. FA operations must be sustainable with fuel, ammunition, maintenance, and medical support over aerial and/or ground LOCs, particularly Classes III and V, and VIII. Logistic planners must arrange for fuel to be pushed forward to allow artillery units to refuel with minimum disruption of FA operations. Planning should consider access to prepositioned forward corps and division CSS assets to include refuel-on-the-move options and equipment recovery support. En route or "hot" refueling is the preferred option for Class III operations in the offense. During movement to contact, units should anticipate a disruption of resupply. They should carry sufficient supplies to support them through the movement to contact and ensuing battle.

5-81. Prior to crossing the LD in support of offensive operations, firing units should use prepositioned ammunition stocks to fire preparations or other programs requiring extensive expenditure of ammunition. This will conserve up-loaded ammunition and permit advance into enemy territory with a maximum amount of accompanying ammunition stocks.

5-82. CSS operations during deliberate attacks should focus on weighting the main effort and the resupply of critical items such as fuel and ammunition and the provision of medical and maintenance support. Follow-on operations must be considered to ensure a swift transition into exploitation and/or pursuit operations.

COMBAT SERVICE SUPPORT OF DEFENSIVE OPERATIONS

5-83. Sustained combat in the MBA will normally generate the largest requirement for supplies and services, stress resupply capabilities for fuel and ammunition, and require rapid evacuation of wounded and equipment repair as far forward as possible. CSS for artillery units in a defend role requires prepositioning of ammunition and other essential supplies. During a delay mission, supplies should be prepositioned at subsequent delay lines or positions. POL and ammunition stocks must also be adequate to support decisive MBA actions. For further details on planning considerations, see Chapter 6.

COMBAT SERVICE SUPPORT OF STABILITY OPERATIONS

5-84. Commander's CSS requirements in stability operations vary greatly depending upon the mission and changing circumstances. Commanders conduct stability operations within a complex, dynamic, and often asymmetrical environment. For example, force commanders may be required to establish a presence, separate combatants, restore order, or perform other operations that provide stability. Frequently, commanders must simultaneously conduct infrastructure repair sufficient enough to maneuver and sustain the force while stabilizing the situation. CSS commanders and staff devise a concept of logistic support that enables the commander the flexibility to react to changing situations.

5-85. Some operations, such as peace enforcement, may involve levels of support comparable to offensive and defensive operations. In other operations, demands

may be lower but distances may increase. In stability operations, contracted support is often more appropriate than other operations. Contracting may benefit such CSS activities as food service, morale, welfare, and recreation, billeting, transportation, shower, laundry, and clothing repair. It is important to integrate support not only with other US services and multinational partners, but particularly with the nongovernmental organizations (NGOs) that are likely to be involved in stability operations. Class IV and explosive ordnance disposal support may also be critical in stability operations.

5-86. The principle concerning exchange of multinational support under US law is that support provided by US forces to other militaries is reimbursable. In the absence of appropriate international agreements, no authority exists for combatant commanders to provide for or accept logistic support from multinational partners. Legal authority to exchange support with multinational partners rests with host nation support agreements and other bilateral agreements, such as the acquisition and cross servicing agreement. Approval to exchange support with NGOs normally comes from the Department of State. Bilateral agreements are necessary to leverage local resources to support deployed forces. Commanders and staffs at all levels need to be familiar with the scope and authorities provided for in existing agreements. Staff estimates should reflect only those resources provided for by agreement. Negotiation and approval of these agreements may be restricted to the National Command Authority or may be limited by statute or other legislative restrictions. Where no international agreements exist, requirements that need negotiation and approval must be identified early. Including the operational law judge advocate will assist in resolving issues involving international agreements.

COMBAT SERVICE SUPPORT OF SUPPORT OPERATIONS

5-87. CSS forces may be the decisive Army force component in support operations. In support operations, commanders provide services that meet the immediate needs of designated groups for a limited time until civil authorities can assume responsibility. How commanders approach providing support to civil authorities affects CSS. For example, a commander may be faced with providing support due to a natural disaster such as a hurricane where thousands of homes were destroyed over hundreds of miles and basic essentials such as water, food, medical care, and electricity are unavailable. The commander may choose to prioritize which services to improve and where, thus affecting how CSS commanders and staff develop a concept of logistic support that meets mission requirements. In other support operations such as floods or drought, disease and starvation may be a greater and more immediate concern. The lack of usable road space may place a greater dependency upon air assets. CSS commanders and staff devise a concept of logistic support that meets those requirements.

5-88. Distribution of food, water, supplies, field services, and medical support are often the primary activities of support operations. Support operations involve relatively high levels of CSS-related support to civilian populations. Combat health support in support operations involves such activities as providing basic necessities of life for general populations and assisting in establishing or improving basic health and sanitation services. Planners work with multinational, joint, and interagency planners along with local authorities

to ensure support responsibilities, priorities, and standards, as well as ROE, are clearly laid out.